APPENDIX B

Frequently Asked Questions: Section III, "Health Physics"

NOTES: All questions and answers in this appendix relate to the Fukushima Daiichi nuclear power station. Unless otherwise indicated, all dates in this appendix are for 2011.

Q.1. What were the on-site doses to workers?

A.1. The Tokyo Electric Power Company (TEPCO) has been monitoring emergency workers for external dose throughout the accident and its aftermath (Table 1). TEPCO has also performed whole-body counting on each worker to derive his/her internal dose. Over the period of time from March through July, approximately 14,841 TEPCO employees and contractors were monitored. Slight discrepancies in the reported number of workers monitored are due to a handful of individuals for which both external and internal dose results are not available.

The standard dose limit for Japanese workers is 50 mSv/year and 100 mSv over 5 years. Before the accident, the emergency dose limit was set at 100 mSv/year but was raised to 250 mSv/year to address the seriousness of the issue.

The maximum external dose recorded is 199 mSv, and the maximum internal dose that has been calculated is 590 mSv. The maximum total dose recorded to a worker was 670 mSv, and a total of six workers have received doses in excess of the emergency dose limits established. Although 408 workers have received doses above the normal annual limit of 50 mSv, the average dose for emergency workers is still relatively low and has decreased steadily during the months following the accident. For workers performing emergency work since March, the average total accumulated dose is 22.4 mSv. For the months April through July, the average dose is <4 mSv. The total collective dose for all emergency workers is estimated to be 115 person-Sv.

In addition to whole-body doses, two male employees received significant skin dose while laying electric cables, from standing in contaminated water that flooded their boots. The estimated skin dose was ~2 to 3 Sv.

As of the most recent monitoring period, no observable health effects have been found in any of the workers.

Table 1
TEPCO Monitoring Results as of September 15*

Dose Category (mSv)	External	Internal
>250	0	5
200 to 250	0	1
150 to 200	9	1
100 to 150	28	5
50 to 100	165	78
20 to 50	515	259
10 to 20	1,451	684
<10	12,673	12,552
Total	14,841	13,585

* http://www.tepco.co.jp/en/press/corp-com/release/11091515-e.html

Q.1.a. To whom are dosimetry records reported?

A.1.a. Dose records are reported to the Nuclear and Industrial Safety Agency (NISA). NISA is responsible for safety regulation of nuclear energy under the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors or the Electricity Business Act.

Q.2. What were the off-site doses to members of the public?

A.2. At this point in time, the Committee does not have enough evidence or data to give a complete answer to the question. Let us provide the current status as we know it.

The doses received off-site by members of the public have come from four different pathways:

- submersion dose from airborne radioactivity
- inhalation dose from airborne radioactivity
- consumption of contaminated water and foodstuffs
- direct exposure from contaminated surface deposition.

The first two of these items cannot be measured retrospectively but can only be predicted from dispersion modeling. A few crude dispersion models have been made public, but no validated models have been made available for review to date. Airborne radioactivity is transitory, and the dose from inhalation is many times greater than the submersion dose for all but the noble gases.

Food and water contamination has been documented through extensive measurements. Most contaminated foodstuffs have been restricted, but there is no solid public information regarding their actual level of consumption.

Conversely, the external exposure from groundshine can be predicted with relative accuracy from the distribution of ground contamination (detailed below). Using the relative mixture of cesium-134 (^{134}Cs) and cesium-137 (^{137}Cs), the Institut de Radioprotection et de Sûreté Nucléaire in France has calculated the external dose for the first year after the accident at 16.6 mSv per MBq/m^2 of total cesium. This dose conversion is based upon an assumption of 12 hours/day inside, where the average dose rate is reduced 70% by the structure.

The latest evaluations of environmental radiation monitoring results by Japan's Nuclear Safety Commission (NSC) can be found at http://www.nsc.go.jp/NSCenglish/mnt/index.htm. Most recently (September 12), they are as follows.

Ambient radiation dose around Fukushima Daiichi nuclear power plant (NPP)

Observation of ambient radiation dose rate at 20 km or farther from the Fukushima Daiichi NPP found relatively higher dose rates locally at several measuring points. However, they do not reach the level that might affect people's health.

A part of the area at 20 km or farther from the Fukushima Daiichi NPP, where the integrated dose is so high that annual cumulative dose after the onset of the accident would potentially exceed 20 mSv, was set to be a "Deliberate Evacuation Area."

High-ambient-dose spots not having regional extent as Deliberate Evacuation Areas (outside of Deliberate Evacuation Area and "Restricted Area"), where ambient radiation dose rate is continually so high that the annual cumulative dose after the onset of the accident would exceed 20 mSv, are set to be "Specific Spots Recommended for Evacuation."

The Committee will need to continue to watch the variation of dose rate carefully, considering other factors such as weather and wind direction.

Dust sampling in the air around Fukushima Daiichi NPP

With regard to the measuring result of the dust samples collected at 20 km or farther from the Fukushima Daiichi NPP between September 2 and 8, ^{134}Cs and ^{137}Cs were detected. They were lower than the concentration limit.[1] In addition, iodine-131 (^{131}I), iodine-132, technetium-132, and other radioactive materials were lower than the detection limit.

The Committee will continue to watch for variations of dust sampling data carefully, considering other factors such as weather and wind direction.

Airborne monitoring

In terms of ambient radiation dose rate and deposition of cesium in Yamagata Prefecture, airborne monitoring, measured through August 9 to 15 and adjusted as of August 15, showed generally low levels in the whole area of Yamagata Prefecture.

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[1]Limits of the radioactivity in the air outside the peripheral monitoring area boundary as specified by the law are 5×10^{-6} Bq/cm^3 (5 Bq/m^3) for ^{131}I, 2×10^{-5} Bq/cm^3 (20 Bq/m^3) for ^{134}Cs, and 3×10^{-5} Bq/cm^3 (30 Bq/m^3) for ^{137}Cs.

Environmental sampling around Fukushima Daiichi NPP

Monitoring results collected between September 5 and 10 were obtained on weeds, soil, and fallout. The soil still showed relatively higher values. Further information is needed on the continued measurement of the drinking water (tap water) and foods.

With regard to the measuring results of seawater collected around the Fukushima Daiichi NPP and at the coast of Ibaraki Prefecture between September 6 and 9, ^{131}I, ^{134}Cs, and ^{137}Cs levels were lower than the detection limit. With regard to the measuring results of sea ground soil collected around the Fukushima Daiichi NPP on September 8 and 9, ^{134}Cs and ^{137}Cs were detected.

It is a matter of concern both domestically and internationally to grasp the concentration and distribution of radiological materials in the marine environment. As the NSC showed in the report entitled "The Basic Ideas for Future Radiation Monitoring" on July 21 (www.nsc.go.jp/NSCenglish/mnt/120105.pdf), it is necessary to adopt the detection limits established for investigating the radioactivity level in the environment.

Regarding the food distribution restrictions, be aware of the information announced by the Ministry of Health, Labor and Welfare regarding relevant intervention.

The Committee will continue to assess environmental monitoring by related organizations under the arrangement by the Ministry of Education, Culture, Sports, Science and Technology–Japan (MEXT), considering various elements such as weather change.

Environmental radioactivity level survey by prefecture

(1) Ambient radiation dose rate: Some prefectures showed higher values compared with the average values obtained before the accident; however, their values do not affect people's health.

(2) Drinking water (tap water): In Miyagi Prefecture, reading of drinking water (tap water) monitoring was 0.3 Bq/kg for radioactive cesium, as far as the data on radioactivity level in drinking water by prefecture published by MEXT were evaluated. It was lower than the indices to limit ingestion of food and drink.[2] See Table 3 in **A.11** for surveys of radioactive materials in drinking water in other prefectures.

The Committee considers that further monitoring is needed on a continuous basis.

A recent action by the Japanese Government on September 21, 2011, was to remove five localities from the evacuation zone (see Fig. 1) as reported in the *Yomiuri Shimbun* ("5 Localities to Drop from Evacuation Zone," *Daily Yomiuri Online: The Daily Yomiuri*, September 21, 2011; http://www.yomiuri.co.jp/dy/national/T110920004946.htm): "The government has notified five municipalities in Fukushima Prefecture that their designation as evacuation preparation zones will end later this month. The five municipalities are, from north to south, Minami-Soma, Tamura, Kawauchimura, Narahamachi and Hironomachi. They are located between 20 and 30 kilometers from the Fukushima No. 1 nuclear power plant. The government said earlier that it would end the designation across the board when rebuilding plans, including those for decontamination of radioactive substances, are worked out by the five municipalities."

[2]Indices to limit ingestion of drinking water are 300 Bq/kg for radioactive iodine and 200 Bq/kg for radioactive cesium, as shown in the "Regulatory Guide: Emergency Preparedness for Nuclear Facilities," Nuclear Safety Commission of Japan.

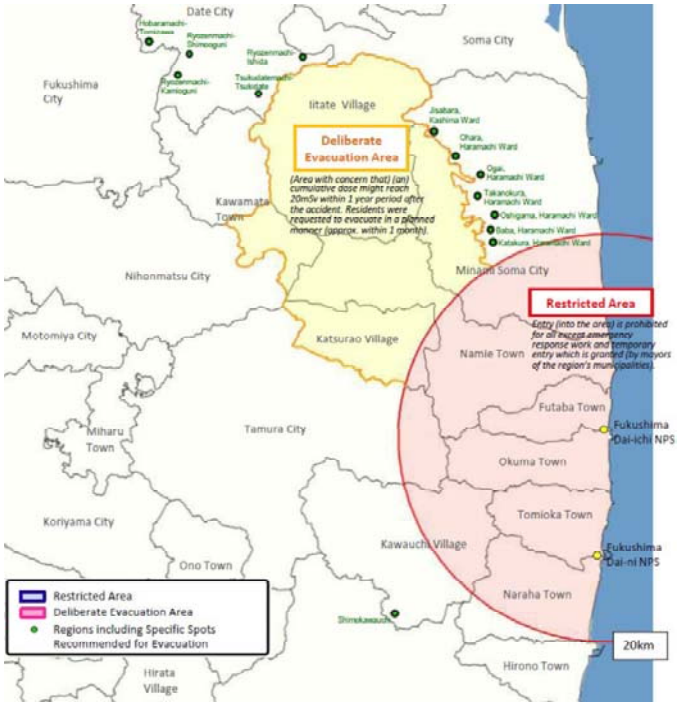

Figure 1. Evacuation areas and specific sites recommended for evacuation (current as of November 25). (Source: "Fukushima Daiichi Status Report," International Atomic Energy Agency, February 23, 2012.)

Table 2 shows the estimated external doses to those members of the public that were in Namie Town, Kawamata Town (in Yamakiya district), and Iitate Village. The table is based on preliminary results released February 20, 2012, by the Fukushima Prefecture project to estimate external dose to residents who were in the surrounding area for the first 4 months following the accident, i.e., from March 11 to July 11. *Please note that these external dose estimates have been put together based on a survey of when and where people were during the months that followed the accident. When the full survey is released, it will likely include a substantial discussion of the estimation process.*

Table 2
Estimated External Doses to 9747 Members of the Public from Namie Town, Kawamata Town, and Iitate Village from March 11 to July 11, 2011

Estimated Dose (mSv)	Number of People[a]
0 to 1	5636
1 to 2	2081
2 to 3	825
3 to 4	387
4 to 5	290
5 to 6	203
6 to 7	130
7 to 8	62
8 to 9	46
9 to 10	16
10 to 11	26
11 to 12	14
12 to 13	8
13 to 14	6
14 to 15	7
>15	10
Total	9747

[a]The figures apply only to members of the public in the surrounding areas. They do not include radiation workers who lived in the area and worked on-site in this time period.

Q.3. What have been the ramifications of the evacuation zones chosen by Japan and the United States?

A.3. The Japanese followed their emergency plans and recommended evacuation of people in an area out to 10 km from Fukushima.

In the public transcripts of a U.S. Nuclear Regulatory Commission (NRC) meeting on July 19, 2011, a question from William D. Magwood, Commissioner of the NRC, followed by a response from Mr. Bill Borchardt, NRC Executive Director for Operations, is as follows:

> COMMISSIONER MAGWOOD: Appreciate that. One more question, Mr. Chairman. Also to just give you a chance to clarify. I know there's a lot of chatter in the press over the weekend about the impact of 50-mile evacuation zones around U.S. nuclear plants. Could you sort of give the NRC's position on what the emergency planning requirements are, and why we're confident in what we have today? Can you please elaborate?
>
> MR. BORCHARDT: We have, as part of the emergency preparedness construct in this country, a 10-mile emergency planning zone [EPZ] that completely encircles every reactor plant in the country. That, in coordination with FEMA [Federal Emergency Management Agency], who has an offsite emergency-preparedness role throughout the country, is routinely practiced. We have models that would do an analysis of what the release paths are; we take into account the meteorological conditions; and the NRC, I should be clear, the NRC does not make the recommendations regarding evacuation or any other protective action guidelines; that's the responsibility of the state government, so it would be the governor that would ultimately be making that decision. But we're in a position to provide independent assessment and advice to

the governor in those kinds of circumstances. The situation that led to the 50-mile guidance in Japan was based upon what we understood and still believe had existed, that there was degraded conditions in two spent fuel pools at the site, and in all likelihood some core damage in three of the reactor units. Based on the situation as we understood it at that time, we thought it was prudent to provide the recommendation to the ambassador to evacuate out to 50 miles in Japan. It was not based on the existing radiological conditions, but what at that time was a possibility. And so we thought it was the prudent, conservative suggestion. If those conditions existed in the United States, we would have made the exact same recommendation. But the idea that there might be some misunderstanding, that because we have a 10-mile EPZ, that would be the extent for what we would consider and what our emergency planning recommendations would be limited to, is not true at all. We would have done the exact same kind of analysis and gone through the same thought process to consider extending evacuation or whatever protective measures we thought were appropriate.

The ramifications of evacuation have been out of all proportion to the radiation risks, whether chosen by Japan or suggested by US. The effect has been inhumane and against the public interest.

Some information is given in Note A below. The stress caused by this socio-economic surgery—mental health, personal relationships, business confidence, care for the young and elderly, increased suicide rates—have [has] been neglected in the imposition of evacuation. At Chernobyl there was a similar over-reaction and the health effects were clearly reported in the IAEA [International Atomic Energy Agency] Report of 2006 and the UN Report of 28 Feb 2011. These make it clear that the negative health effects of fear and evacuation far outweigh any effect due to radiation. Inappropriate safety levels based on ALARA [as low as (is) reasonably achievable] are at the root of the problem.

Q.4. What was the calculational basis for the evacuation recommendations, and what were the uncertainties in the supporting calculations?

A.4. The Committee notes that in response to the Tohoku earthquake and the subsequent disaster at the Fukushima Daiichi nuclear power station (NPS), the Japanese government enforced a mandatory evacuation of individuals residing within a 20-km radius of the crippled nuclear power plant (NPP). Individuals residing within a 30-km radius and outside the 20-km zone were advised to either take shelter indoors or evacuate the area. These evacuation areas aimed to secure a certain distance from the NPS based on unstable conditions at the facility and to reduce the cumulative dose received by residents in the first year following the accident to a value of <20 mSv ("The Basic Approach to Reassessing Evacuation Areas," Nuclear Emergency Response Headquarters, August 9, 2011). The initial 20 km was designated a precaution area and was later designated as a Deliberate Evacuation Area following measurements taken near the site of the accident.

This evacuation was in stark contrast to the evacuation recommended by the U.S. Nuclear Regulatory Commission (NRC) of 50 miles to all U.S. citizens residing near the Fukushima Daiichi NPS. The decision to expand evacuation of U.S. citizens outside of 50 miles was a highly conservative decision largely based on computer models considering several factors including an abundance of caution resulting from limited and unverifiable information on the conditions of several units at the NPS, including the conditions of Units 1, 2, and 3, which had appeared to be damaged by hydrogen explosions, and the status of Unit 4, which was in a refueling outage and the entire core of which had been recently transferred to spent-fuel pools (SFPs) only 3 months earlier. Readings showed elevated dose levels in some areas of the NPP that could have hindered NPP crews from stabilizing the NPP's condition. There was a level of uncertainty about whether stabilization of the NPP could be done near term. In addition, changes in meteorological conditions resulted in the winds shifting from outward to sea to inward toward land.

To perform off-site radiation dose modeling, the NRC used the computer code RASCAL. This code uses information on various U.S. nuclear reactor design types, radiation release paths from NPPs to the environment, radionuclide source terms, and meteorology ("Expanded NRC Questions and Answers Related to the March 11, 2011 Japanese Earthquake and Tsunami, April 13, 2011," NRC). Prior to the disaster, the computer program was unable to handle concurrent, multiple plant releases. Following the disaster, the NRC developed a model that combined information from the three operating reactors and the SFP in order to improve the accuracy of the program. The doses predicted by the RASCAL code were predicted to exceed the protective action guidelines established by the U.S. Environmental Protection Agency well beyond both the 20-km mandatory evacuation zone and beyond the 30-km sheltering zone recommended by the Japanese government. The basis for the dose assessment was limited and used unverifiable information provided by Japanese authorities on the condition of the crippled reactors. The dose assessment results are conservative predictions and may not actually reflect the dose levels from any actual radiation release (NRC 11-50, "NRC Provides Protective Action Recommendations Based on U.S. Guidelines," March 16, 2011, NRC). The model also uses predicted meteorological conditions that occurred for this area and may not be reliable.

Q.5. What are the long-term land contamination effects off-site?

A.5. The long-term land contamination off-site is due to the deposition of cesium-134 (^{134}Cs) and cesium-137 (^{137}Cs), because of their comparatively long half-lives (the half-lives of ^{134}Cs and ^{137}Cs are 2.1 and 30.1 years, respectively). The other radionuclides identified as being released have half-lives on the order of less than days or tens of days. The other isotopes of concern from a reactor accident include strontium-90, yttrium-90, and the actinides, but these have not been measured in detectable quantities beyond the established evacuation zone.

The initial measurement of ground contamination was performed by the Ministry of Education, Culture, Sports, Science and Technology–Japan [with assistance from the U.S. Department of Energy (DOE)] by measuring aboveground exposure levels using a helicopter flyover, extrapolating to the exposure rate at ground level, and converting that value to an area concentration of cesium, given the relative proportions of ^{134}Cs and ^{137}Cs expected. An example flyover map is shown in Fig. 2. From several of these maps, isodose/isoconcentration curves are generated, and a map over the entire survey area is produced, as in Fig. 3. This method has the potential to miss small hot and cold spots in the survey area but provides a reasonable distribution of the deposited activity.

A significant number of soil samples throughout the region have been collected and measured with gamma spectroscopy to obtain the cesium concentration. A map of those samples is shown in Fig. 4. A direct correlation between the various maps has not been completed, but the patterns observed are similar.

The Institut de Radioprotection et de Sûreté Nucléaire (IRSN) map (Fig. 2) indicates that there is a total land area of ~874 km^2 contaminated with ^{134}Cs and ^{137}Cs in concentration >600 kBq/m^2, which is the concentration that is predicted to correspond to 10 mSv of dose in the first year (this includes outside the 20-km evacuation zone).

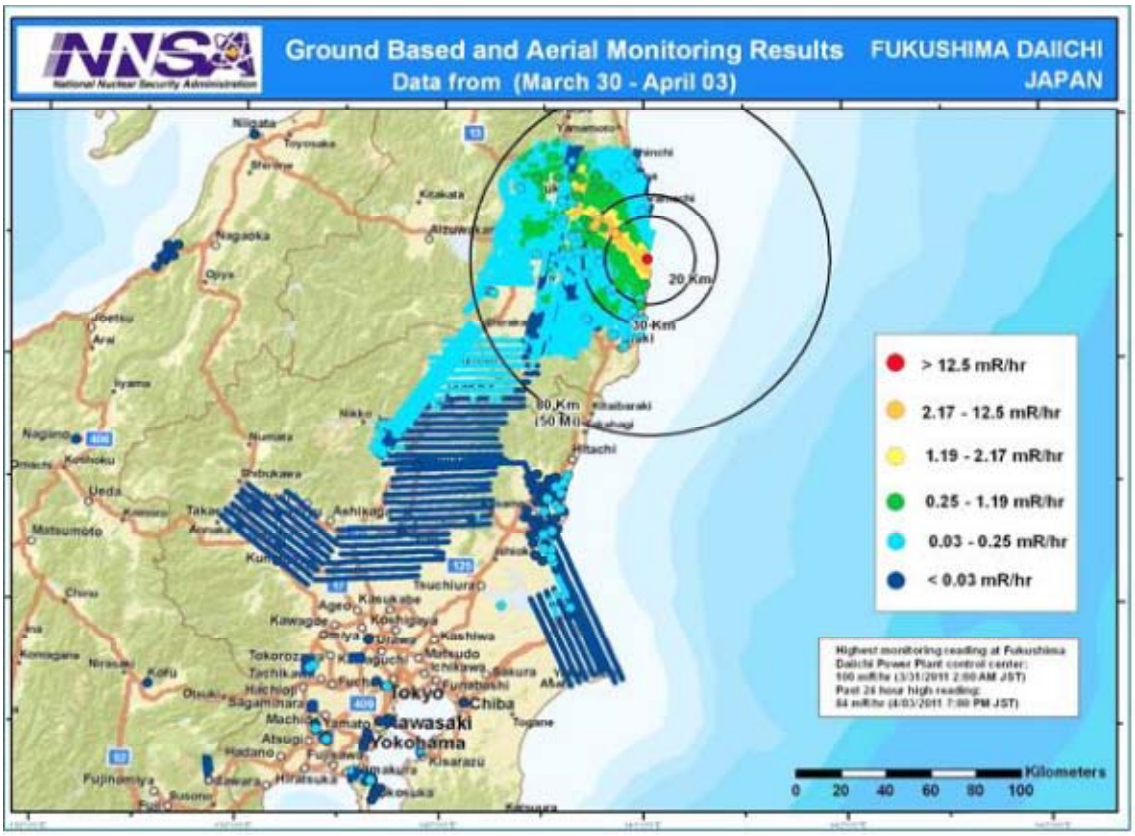

Figure 2. Monitoring results. (Courtesy of DOE National Nuclear Security Agency.)

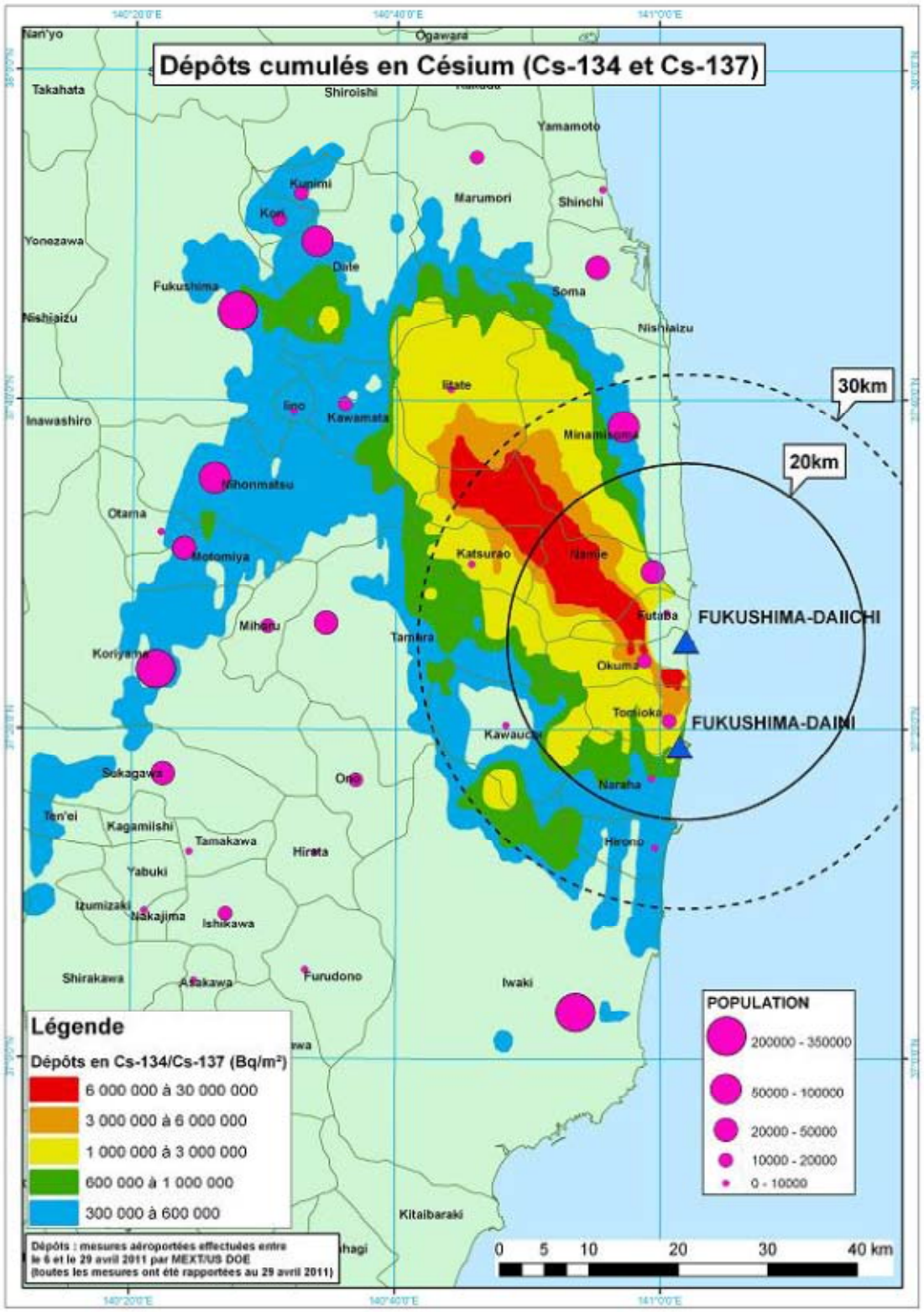

Figure 3. Cumulative deposition of cesium radioisotopes. (Courtesy of IRSN.)

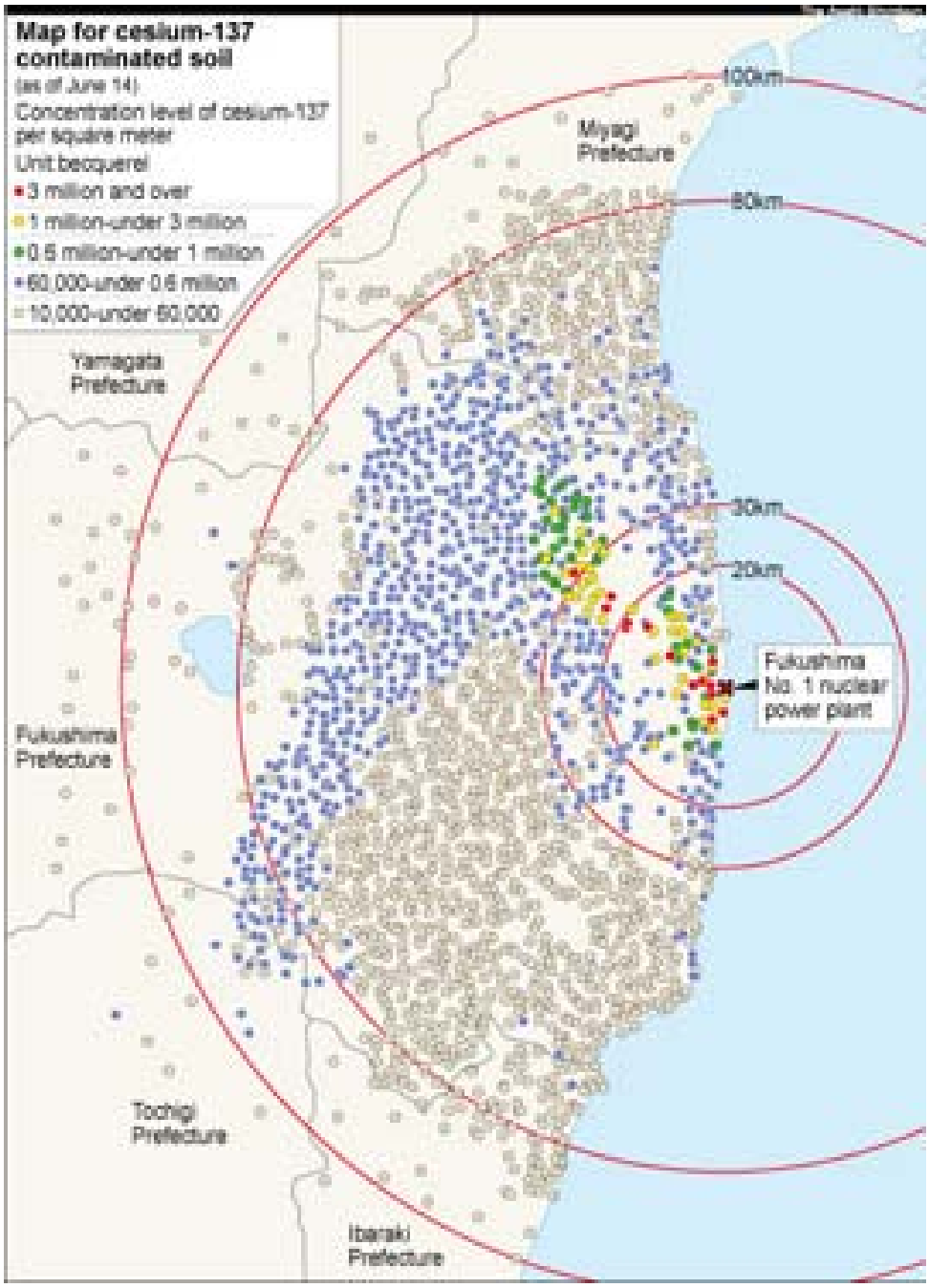

Figure 4. Cumulative deposition of ^{137}Cs radioisotope. (Courtesy of NNSA.)

Q.6. What is the Japanese practice in dose monitoring for workers and also the public? Where are the records kept? To whom are the records reported?

A.6. As of this writing, the Committee does not have information regarding these questions.

Q.7. When will the Japanese government announce a large-scale post-Fukushima-accident health monitoring program for those who have been exposed? Or, will it not have such a program?

A.7. As of July 5, more than 210,000 residents have been screened by experts from related organizations, universities, and local governments ["Progress Status of the 'Roadmap for Immediate

Actions for the Assistance of Residents Affected by the Nuclear Incident,"' Nuclear Emergency Response Headquarters, Ministry of Economy, Trade and Industry; http://www.meti.go.jp/english/earthquake/nuclear/roadmap/ (accessed September 20, 2011]. Two internal dose assessment surveys were started by the National Institute of Radiological Sciences (NIRS) and the Japan Atomic Energy Agency (JAEA). NIRS has completed an internal exposure survey on Fukushima Prefectural residents ["Regarding the Overview of Internal Exposures Survey on Fukushima Prefectural Residents Conducted by the National Institute of Radiological Sciences, July 28, 2011," Nuclear and Industrial Safety Agency; http://www.nisa.meti.go.jp/english/press/index.html (accessed September 20, 2011)]. Initial measurements were taken between June 27 and July 16. The survey focused on residents who lived in areas associated with high doses. A total of 122 participants—90 residents from Namie Town, 20 residents from Iitate Village, and 12 residents from Kawamata Town—were initially enrolled in the survey, and 109 subjects were surveyed in follow-up examinations. Whole-body counters were used to detect activity from cesium-134 (^{134}Cs), cesium-137 (^{137}Cs), and iodine-131. Urine bioassays were used to determine a cutoff value for the whole-body-counter measurements. Cesium-134 was detected in 52 out of 109 people (47.7%) with the highest value being 3,100 Bq. Cesium-137 was detected in 32 out of 109 people (29.4%), with the highest value being 3,800 Bq. Both ^{134}Cs and ^{137}Cs were detected in 26 out of 109 people (23.9%). Iodine-131 was not detected in any subject. Based on this survey, the combined internal dose from ^{134}Cs and ^{137}Cs was <1 mSv (100 mrem) for these individuals. JAEA began internal exposure surveying of 2,800 evacuees on July 11.

Appropriations were made for the "Health Fund for Children and Adults Affected by the Nuclear Accident," created by Fukushima Prefecture to ensure the health of residents through mid-term and long-term projects (www.meti.go.jp/english/nuclear/roadmap/110817_assistance_02). Currently, a two-step plan is being considered (Y. Oiwa, Y. Kado, and Y. Hayashi, "Fukushima Prepares Extensive Study of Radiation Health Effects on Residents," *Asahi Shimbun Digital*, June 18, 2011; http://www.asahi.com/english/TKY201106170203.html). First, a preliminary study began in early July on a sample of about 100 residents that were located in regions of high radiation levels. Those selected will undergo thorough testing for internal radiation contamination. All Fukushima residents will be considered in the primary study. Questionnaires will be distributed to all residents in order to help experts determine the radiation dose received by the residents. The data will be stored for 30 years to conduct follow-up health checks. An estimated 2 million residents need to be monitored.

The United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) has also announced that it will conduct a study on the health impact to Fukushima residents ["The Nuclear Situation due to the Earthquake and Tsunami in Japan," UNSCEAR; http://www.unscear.org/unscear/en/japan.html (accessed September 20, 2011)].

Q.8. Are there any data regarding the radionuclide content of foodstuffs and water, ground deposition of fallout from the initial and ongoing releases, or airborne radioactive material concentration measurements?

A.8. There are many, and source material has been circulated. The radionuclide levels are extremely low. The Regulation Value level for beef has been set at 500 Bq/kg. Actions taken by the Japanese government to restrict consumption of contaminated meats are outlined in "Measures Against Beef Which Exceeds the Provisional Regulation Values of Radioactive Cesium by the Government to Ensure Safety of Beef," Government of Japan; http://www.kantei.go.jp/foreign/kan/topics/201107/measures_beef.pdf.

Q.9. Can the early radioactivity releases be estimated from the remaining fission, activation, and fuel radionuclides on archived air samples?

A.9. The Committee does not have any information regarding this question at this time.

Q.10. Are there any assessments in place of personnel protective measures such as respiratory protection, food washing, and sheltering?

A.10. The Tokyo Electric Power Company (TEPCO) has improved the working conditions and safety measures for its workers since the beginning of the accident. All TEPCO workers are required to wear Tyvek® and other protective clothing, gloves, and protection masks. In addition, TEPCO has established contamination-free rest areas throughout the nuclear power plant; installed water coolers; and introduced a "cool vest," which aims to protect workers from heat exhaustion. Currently, seven designated rest areas have been created, and four additional rest areas are in preparation. Also, improvements in living conditions have been made at the gymnasium, which houses several workers.

Q.11. Are there any measurements of contamination of drinking water sources? Was most drinking water prebottled water or tap water?

A.11. The Committee has no data regarding the partition between public water supplies and bottled water that were used after the accident. However, there are data for some public water supplies. These data—taken directly from the Ministry of Education, Culture, Sports, Science and Technology–Japan (MEXT): "Monitoring Information of Environmental Radioactivity Level," MEXT; http://radioactivity.mext.go.jp/en/)—are summarized in the tables and figures below.

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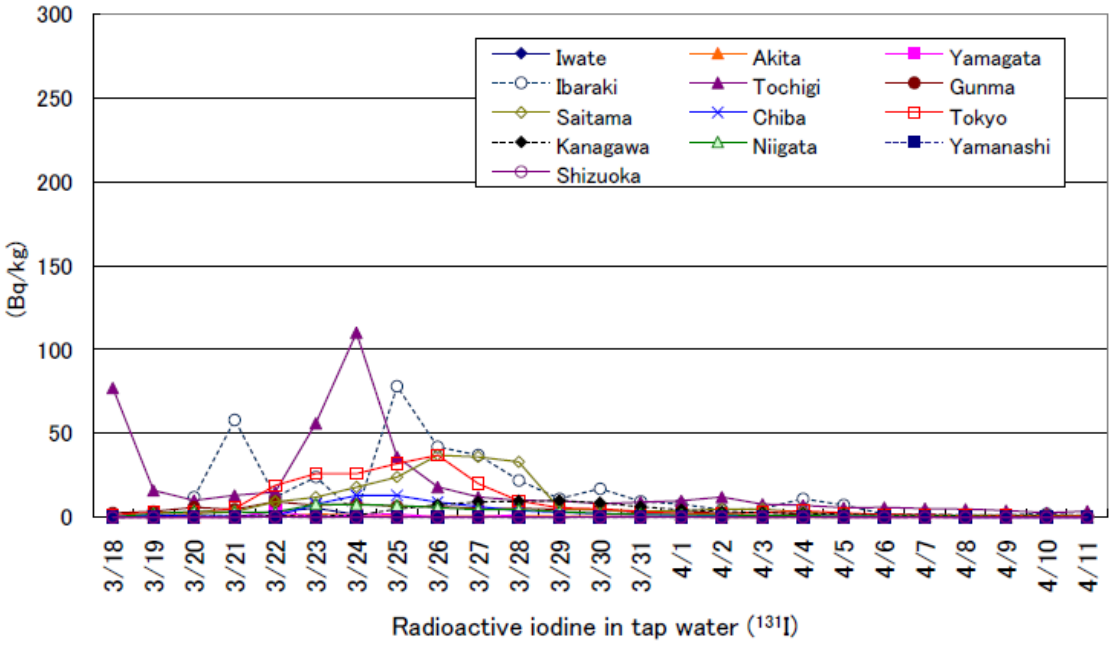
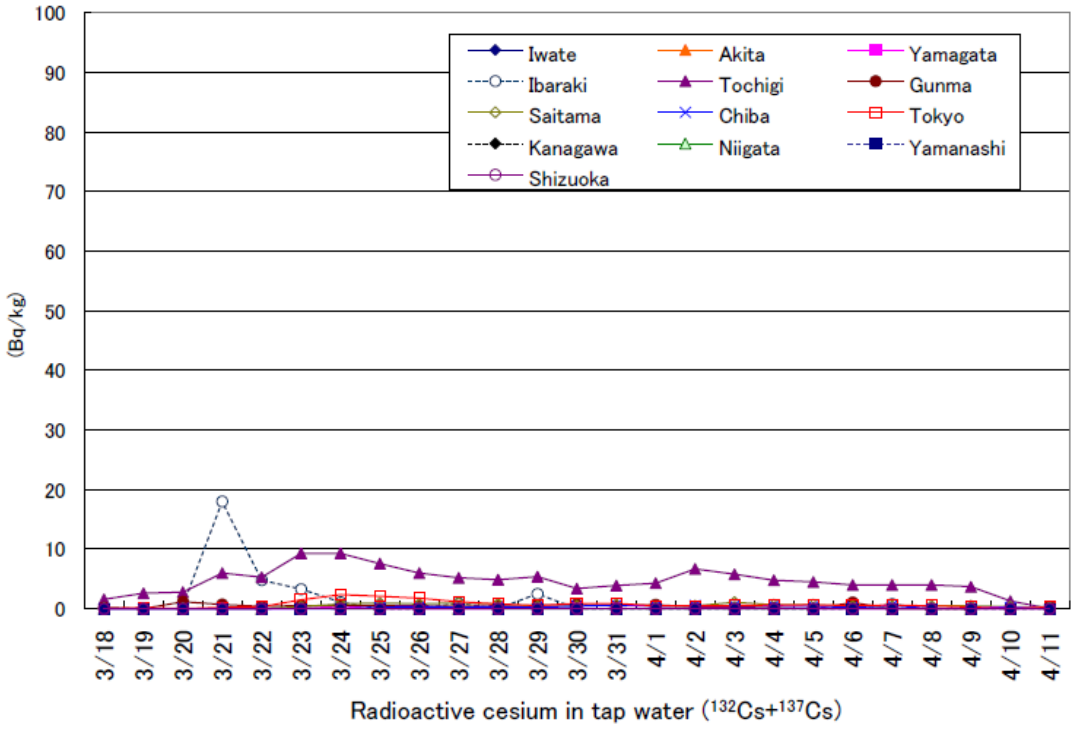
Results of surveys on radioactive materials in tap water conducted by Ministry of Education, Culture, Sport, Science and Technology



Results of surveys on radioactive materials in tap water conducted by Ministry of Education, Culture, Sport, Science and Technology



※In these figures, the concentration is shown as zero for descriptive purposes of drawing figures, in case of ND (Not Detectable). (The lower detection limit varies for each measurement, and ND does not mean that the detected concentration level is zero.)

※Out of prefectual governments conducting surveys, only prefectures, in which radioactive iodine and radioactive cesium were detected, are shown.

Table 2. Results of surveys on radioactive materials in tap water conducted by Ministry of Education, Culture, Sport, Science and Technology※

Radioactive iodine 131

Sampling Date	Iwate	Akita	Yamagata	Ibaraki	Tochigi	Gunma	Saitama	Chiba	Tokyo	Kanagawa	Niigata	Yamanashi	Shizuoka
3/18	ND	ND	ND	–	77	2.5	0.62	0.79	1.5	ND	0.27	ND	
3/19	ND	ND	ND	–	16	3.4	0.93	1.2	2.9	0.43	2.1	ND	ND
3/20	ND	ND	ND	12	10	5.9	2	0.68	2.9	0.46	3.6	0.24	ND
3/21	ND	ND	ND	58	13	4.7	3.4	0.59	5.3	0.58	3.2	ND	ND
3/22	3.4	0.76	3.9	12	15	9.3	9.2	0.48	19	0.93	3	ND	0.14
3/23	5.3	2	ND	24	56	7	12	7.8	26	0.75	7.8	ND	ND
3/24	1.5	1.2	1.5	2.2	110	8	18	13	26	1	7.5	0.22	ND
3/25	0.54	0.83	1.9	78	36	6.4	24	13	32	4.9	7.1	ND	ND
3/26	ND	0.42	ND	42	18	6.3	37	9	37	7.4	5.7	ND	ND
3/27	0.34	0.5	ND	37	12	5.4	36	6.4	20	9.2	4.6	ND	ND
3/28	ND	0.77	1.4	22	10	5.4	33	3.8	9.8	9.6	4.5	ND	ND
3/29	ND	0.57	–	11	9.9	4.6	5.3	3	5.6	9.9	3.4	ND	ND
3/30	0.36	0.35	–	17	8.1	4.7	4.3	2	5.1	8.6	2.3	ND	ND
3/31	0.31	0.42	–	9.5	9	2.6	3.7	1.5	3.4	6.3	1.8	ND	ND
4/1	0.33	0.2	–	7.7	9.8	3.4	3.9	1.3	2.1	4.5	1.5	0.11	ND
4/2	ND	ND	–	4.6	12	2.2	4.9	0.97	2	3.3	1.4	ND	ND
4/3	ND	ND	–	5.1	7.8	3	4.8	0.74	2.9	2.7	1.1	ND	ND
4/4	0.23	ND	–	11	7.1	1.8	3	0.42	3.8	2.3	1	ND	ND
4/5	ND	ND	ND	7.3	5.7	1.2	2.2	0.41	2.6	1.9	0.77	ND	ND
4/6	ND	ND	ND	1.9	5.8	1.6	1.3	0.35	1.63	1.2	0.58	ND	ND
4/7	0.15	ND	ND	1.9	5.2	0.91	1	0.29	1.4	1.1	0.53	ND	ND
4/8	ND	ND	ND	1.2	4.8	1	0.7	ND	0.89	0.79	0.53	ND	ND
4/9	ND	ND	ND	1.3	4	0.96	0.79	ND	1	0.54	0.32	ND	ND
4/10	ND	ND	ND	2.1	2.6	0.93	0.72	ND	0.71	0.65	0.33	ND	ND
4/11	ND	ND	ND	0.91	3.7	0.7	0.41	ND	0.6	ND	0.31	ND	ND

Radioactive cesium134＋137

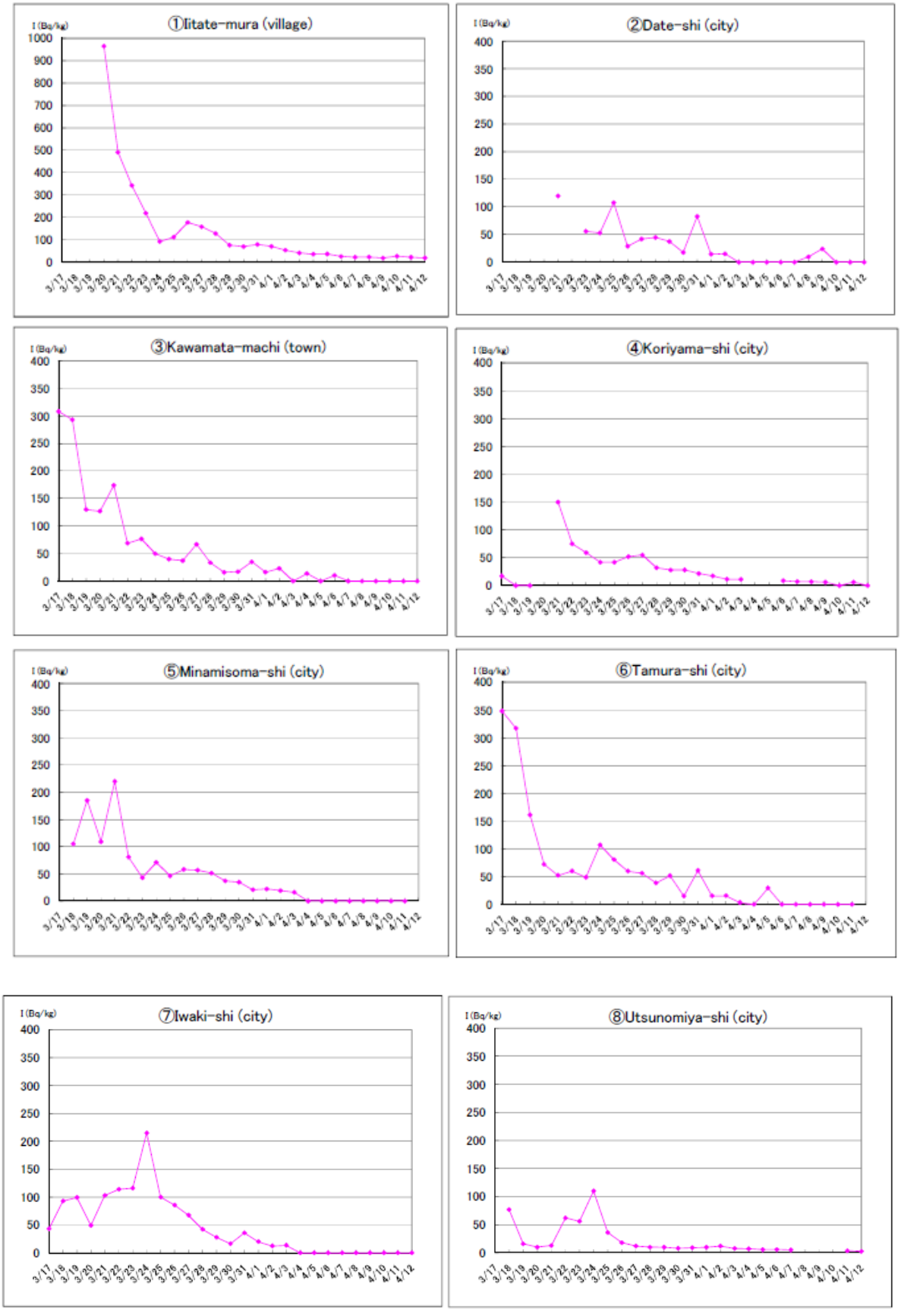
Sampling Date	Iwate	Akita	Yamagata	Ibaraki	Tochigi	Gunma	Saitama	Chiba	Tokyo	Kanagawa	Niigata	Yamanashi	Shizuoka
3/18	ND	ND	ND	−	1.6	0.22	ND	ND	ND	ND	ND	ND	ND
3/19	ND	ND	ND	−	2.6	ND	ND	ND	0.21	ND	ND	ND	ND
3/20	ND	ND	ND	0.48	2.8	1.2	ND	ND	ND	ND	ND	ND	ND
3/21	ND	ND	ND	18	6	0.72	ND	ND	0.22	ND	ND	ND	ND
3/22	ND	ND	ND	4.8	5.3	0.37	ND	ND	0.31	ND	ND	ND	ND
3/23	0.13	ND	ND	3.3	9.3	0.54	0.32	ND	1.5	ND	ND	ND	ND
3/24	ND	ND	0.43	1.1	9.3	0.55	0.82	ND	2.4	ND	ND	ND	ND
3/25	ND	ND	ND	ND	7.6	0.56	1	0.27	2.1	ND	ND	ND	ND
3/26	ND	ND	ND	ND	6	0.47	0.79	0.32	1.8	ND	ND	ND	ND
3/27	ND	ND	ND	0.91	5.2	0.44	1	0.25	1.2	ND	ND	ND	ND
3/28	ND	ND	ND	ND	4.9	0.5	0.79	0.32	0.82	ND	ND	ND	ND
3/29	ND	ND	−	2.5	5.4	0.57	0.35	0.26	0.51	ND	ND	ND	ND
3/30	ND	ND	−	ND	3.4	0.72	0.46	0.45	0.9	ND	ND	ND	ND
3/31	ND	ND	−	ND	3.9	0.46	0.76	0.64	0.88	ND	ND	ND	ND
4/1	ND	ND	−	ND	4.3	0.67	0.41	0.43	0.45	ND	ND	ND	ND
4/2	ND	ND	−	ND	6.7	0.31	0.49	0.53	0.45	ND	ND	ND	ND
4/3	ND	ND	−	ND	5.8	0.24	1.1	0.49	0.5	ND	ND	ND	ND
4/4	ND	ND	−	ND	4.8	0.19	0.68	0.5	0.59	ND	ND	ND	ND
4/5	ND	ND	ND	ND	4.5	ND	0.68	0.43	0.64	ND	ND	ND	ND
4/6	ND	ND	ND	ND	4.0	1.04	0.42	0.26	0.5	ND	ND	ND	ND
4/7	ND	ND	ND	0.76	4	ND	0.48	0.53	0.6	ND	ND	ND	ND
4/8	ND	ND	ND	ND	4	ND	0.51	ND	0.48	ND	ND	ND	ND
4/9	ND	ND	ND	ND	3.7	ND	0.49	0.18	0.26	ND	ND	ND	ND
4/10	ND	ND	ND	ND	1.3	0.13	0.33	0.24	ND	ND	ND	ND	ND
4/11	ND	ND	ND	ND	ND	0.35	0.2	ND	0.27	ND	ND	ND	ND

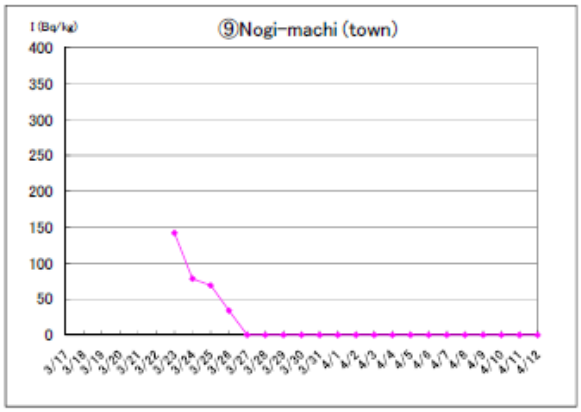
ND: Less than the lower limit of detection.

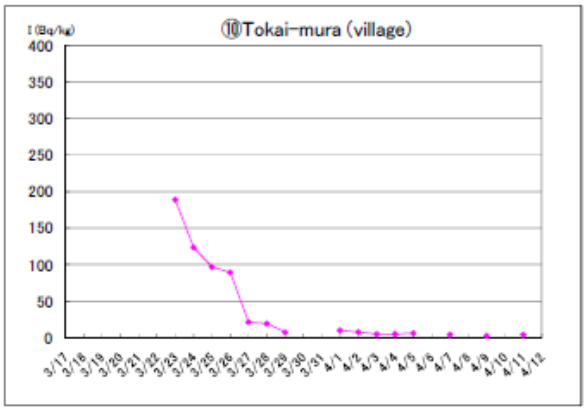
−: Measurements were not conducted due to the maintenance of measuring instrument.

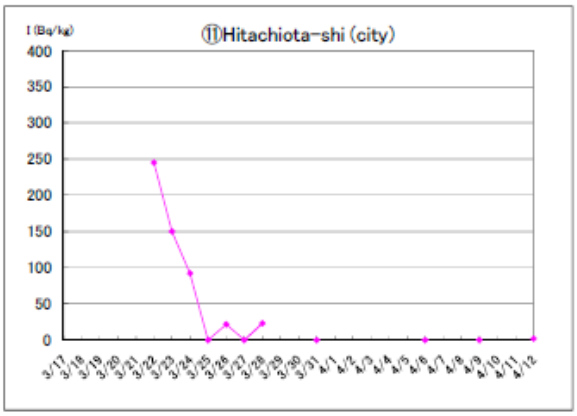
※Out of prefectual governments conducting surveys, only prefectures, in which radioactive iodine and radioactive cesium were detected, are shown.

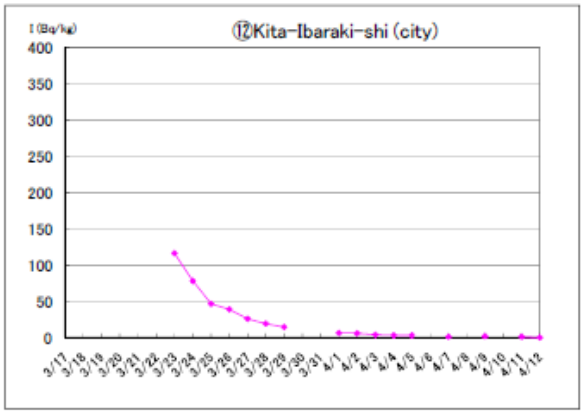
Figure 2. Results of surveys on radioactive materials in tap water conducted by water supply utilities that imposed restrictrion on intake of tap water

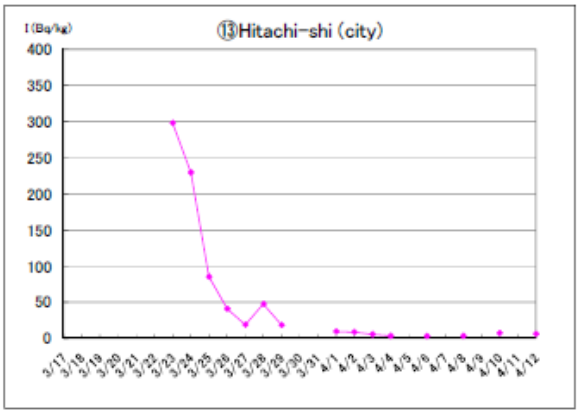


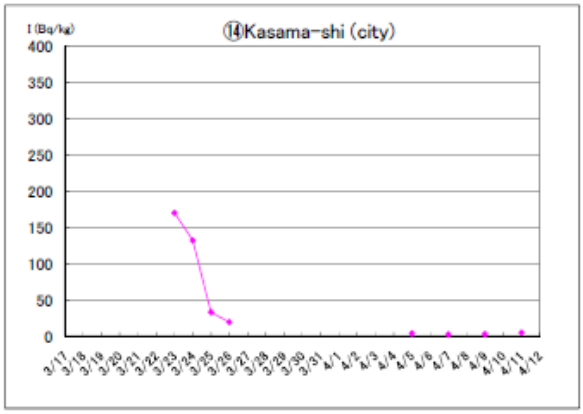

⑨Nogi-machi (town)
I (Bq/kg)
400
350
300
250
200
150
100
50
0
3/17 3/18 3/19 3/20 3/21 3/22 3/23 3/24 3/25 3/26 3/27 3/28 3/29 3/30 3/31 4/1 4/2 4/3 4/4 4/5 4/6 4/7 4/8 4/9 4/10 4/11 4/12

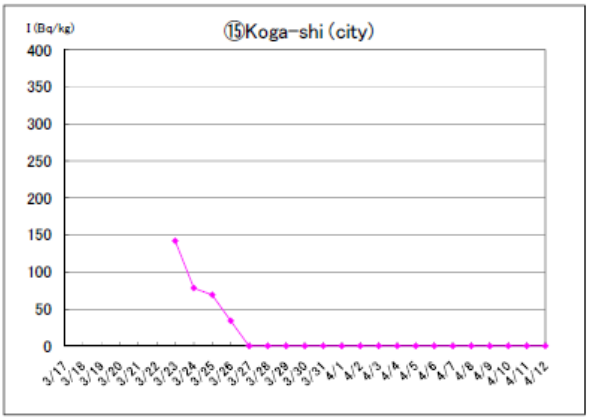

⑩Tokai-mura (village)
I (Bq/kg)
400
350
300
250
200
150
100
50
0
3/17 3/18 3/19 3/20 3/21 3/22 3/23 3/24 3/25 3/26 3/27 3/28 3/29 3/30 3/31 4/1 4/2 4/3 4/4 4/5 4/6 4/7 4/8 4/9 4/10 4/11 4/12

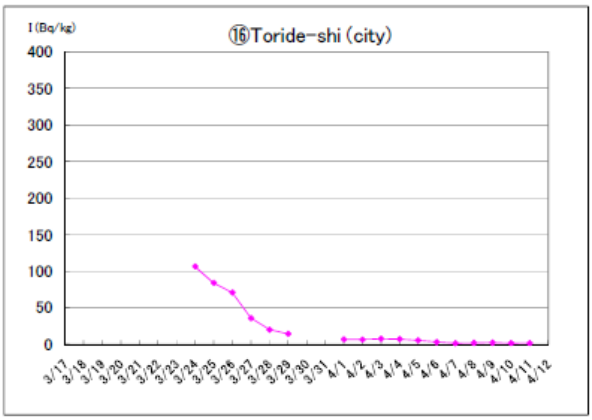

⑪Hitachiota-shi (city)
I (Bq/kg)
400
350
300
250
200
150
100
50
0
3/17 3/18 3/19 3/20 3/21 3/22 3/23 3/24 3/25 3/26 3/27 3/28 3/29 3/30 3/31 4/1 4/2 4/3 4/4 4/5 4/6 4/7 4/8 4/9 4/10 4/11 4/12

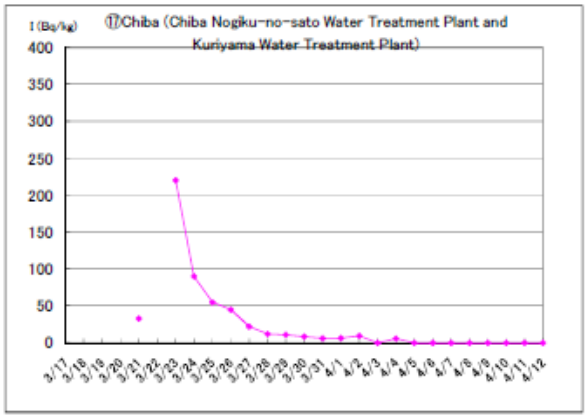

⑫Kita-Ibaraki-shi (city)
I (Bq/kg)
400
350
300
250
200
150
100
50
0
3/17 3/18 3/19 3/20 3/21 3/22 3/23 3/24 3/25 3/26 3/27 3/28 3/29 3/30 3/31 4/1 4/2 4/3 4/4 4/5 4/6 4/7 4/8 4/9 4/10 4/11 4/12

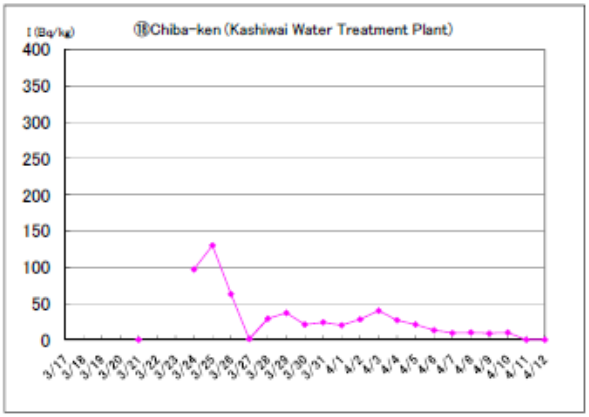

⑬Hitachi-shi (city)
I (Bq/kg)
400
350
300
250
200
150
100
50
0
3/17 3/18 3/19 3/20 3/21 3/22 3/23 3/24 3/25 3/26 3/27 3/28 3/29 3/30 3/31 4/1 4/2 4/3 4/4 4/5 4/6 4/7 4/8 4/9 4/10 4/11 4/12

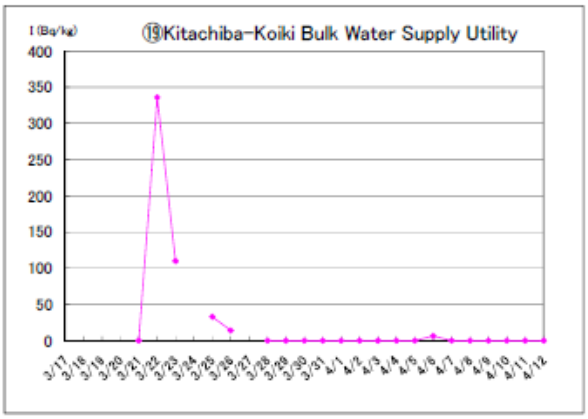

⑭Kasama-shi (city)
I (Bq/kg)
400
350
300
250
200
150
100
50
0
3/17 3/18 3/19 3/20 3/21 3/22 3/23 3/24 3/25 3/26 3/27 3/28 3/29 3/30 3/31 4/1 4/2 4/3 4/4 4/5 4/6 4/7 4/8 4/9 4/10 4/11 4/12

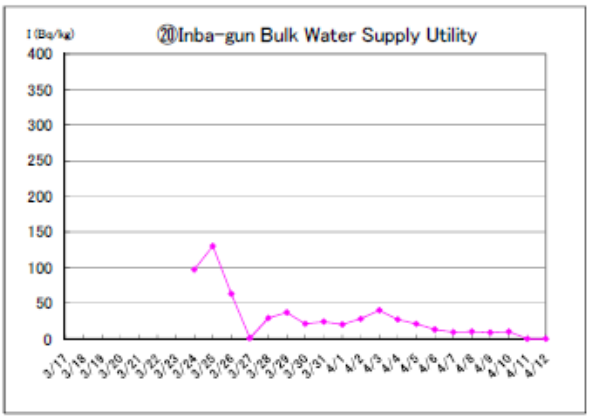

⑮Koga-shi (city)
I (Bq/kg)
400
350
300
250
200
150
100
50
0
3/17 3/18 3/19 3/20 3/21 3/22 3/23 3/24 3/25 3/26 3/27 3/28 3/29 3/30 3/31 4/1 4/2 4/3 4/4 4/5 4/6 4/7 4/8 4/9 4/10 4/11 4/12

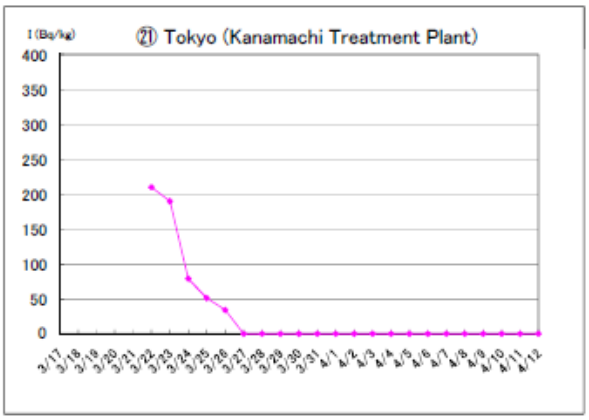

⑯Toride-shi (city)
I (Bq/kg)
400
350
300
250
200
150
100
50
0
3/17 3/18 3/19 3/20 3/21 3/22 3/23 3/24 3/25 3/26 3/27 3/28 3/29 3/30 3/31 4/1 4/2 4/3 4/4 4/5 4/6 4/7 4/8 4/9 4/10 4/11 4/12











※In these figures, the concentration is show as zero for descriptive purposes of drawing figures, in case of ND (Not Detectable).
(The lower detection limit varies for each measurement, and ND does not mean that the detected concentration level is zero.)

Table 3. Results of surveys on radioactive materials in tap water conducted by water supply utilities that imposed restriction on intake of tap water

	①Iitate-mura (village)			②Date-shi (city)			③Kawamata-machi (town)			④Koriyama-shi (city)		
Date	^{131}I	^{134}Cs	^{137}Cs	^{131}I	^{134}Cs	^{137}Cs	^{131}I	^{134}Cs	^{137}Cs	^{131}I	^{134}Cs	^{137}Cs
	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg
2011/3/17							308	ND	ND	17	ND	ND
2011/3/18							293	15	ND	ND	ND	ND
2011/3/19							130	ND	ND	ND	ND	ND
2011/3/20	965	ND	ND				127	ND	ND			
2011/3/21	492	16	15	120	8	ND	174	ND	6	150	ND	ND
2011/3/22	344	ND	ND				69	ND	ND	75	ND	ND
2011/3/23	220	ND	ND	56	ND	ND	77	ND	ND	59	ND	ND
2011/3/24	94	ND	ND	53	ND	ND	50	ND	ND	42	ND	4
2011/3/25	113	ND	ND	108	ND	ND	40	ND	ND	42	ND	ND
2011/3/26	179	ND	ND	29	ND	ND	37	ND	14	52	ND	ND
2011/3/27	159	ND	ND	42	ND	ND	67	ND	ND	55	ND	ND
2011/3/28	129	ND	8	45	ND	ND	34	ND	ND	32	ND	4
2011/3/29	77	ND	ND	38	17	15	16	ND	ND	28	ND	ND
2011/3/30	71	ND	ND	18	ND	ND	17	ND	ND	28	ND	ND
2011/3/31	81	ND	12	83	69	53	35	ND	ND	22	ND	ND
2011/4/1	72	ND	ND	15	ND	ND	16	ND	ND	17	ND	ND
2011/4/2	55	13	8	15	ND	ND	23	ND	ND	11	ND	ND
2011/4/3	43	12	5	ND	ND	ND	ND	ND	ND	11	ND	ND
2011/4/4	37	ND	ND	ND	ND	ND	14	ND	13			
2011/4/5	38	9	ND	ND	ND	ND	ND	ND	ND			
2011/4/6	27	ND	ND	ND	ND	ND	11	ND	ND	9	ND	ND
2011/4/7	24	ND	11	ND	ND	ND	ND	ND	ND	7	ND	ND
2011/4/8	25	ND	ND	10	ND	ND	ND	ND	ND	7	ND	ND
2011/4/9	20	7	7	24	31	38	ND	ND	ND	6	ND	ND
2011/4/10	28	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2011/4/11	23	ND	ND	ND	ND	ND	ND	ND	ND	6	ND	ND
2011/4/12	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Remarks	From a number of measurement points, the largest value is shown.			From a number of measurement points, the largest value is shown.			From a number of measurement points, the largest value is shown.			From a number of measurement points, the largest value is shown.		

	⑤Minamisoma-shi (city)			⑥Tamura-shi (city)			⑦Iwaki-shi (city)			⑧Utsunomiya-shi (city)		
Date	^{131}I	^{134}Cs	^{137}Cs	^{131}I	^{134}Cs	^{137}Cs	^{131}I	^{134}Cs	^{137}Cs	^{131}I	^{134}Cs	^{137}Cs
	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg
2011/3/17				348	ND	ND	43	ND	ND			
2011/3/18	105	ND	ND	317	27	30	93	ND	16	77		2
2011/3/19	185	ND	ND	161	ND	ND	99	ND	16	16		3
2011/3/20	109	12	ND	72	ND	ND	49	ND	ND	10		3
2011/3/21	220	ND	ND	52	6	ND	103	ND	5	13		6
2011/3/22	81	ND	ND	60	ND	ND	114	ND	ND	62		5
2011/3/23	43	ND	ND	49	ND	ND	116	ND	ND	56		9
2011/3/24	71	41	43	107	ND	ND	215	ND	ND	110		9
2011/3/25	46	ND	ND	81	ND	ND	100	ND	ND	36		8
2011/3/26	58	ND	ND	60	ND	ND	86	ND	ND	18		6
2011/3/27	57	ND	ND	56	ND	ND	68	ND	ND	12		5
2011/3/28	52	ND	ND	39	ND	ND	42	ND	ND	10		5
2011/3/29	37	ND	ND	52	ND	ND	28	ND	ND	10		5
2011/3/30	35	ND	ND	15	ND	ND	17	ND	ND	8	ND	5
2011/3/31	21	ND	ND	61	60	81	36	ND	ND	9		4
2011/4/1	22	ND	ND	15	ND	ND	20	ND	ND	10		4
2011/4/2	19	ND	ND	16	ND	ND	12	ND	ND	12		7
2011/4/3	16	ND	ND	4	ND	ND	14	ND	ND	8		6
2011/4/4	ND	ND	ND	ND	ND	ND	ND	ND	ND	7		5
2011/4/5	ND	ND	ND	30	22	31	ND	ND	ND	6		5
2011/4/6	ND	ND	ND	ND	ND	ND	ND	ND	ND	6		4
2011/4/7	ND	ND	ND	ND	ND	ND	ND	ND	ND	5		4
2011/4/8	ND	ND	ND	ND	ND	ND	ND	ND	ND	5		4
2011/4/9	ND	ND	ND	ND	ND	ND	ND	ND	ND	4		4
2011/4/10	ND	ND	ND	ND	ND	ND	ND	ND	ND	3		1
2011/4/11	ND	ND	ND	ND	ND	ND	ND	ND	ND	4		ND
2011/4/12							ND	ND	ND	3		ND
Remarks	From a number of measurement points, the largest value is shown.			From a number of measurement points, the largest value is shown.			From a number of measurement points, the largest value is shown.			From a number of measurement points, the largest value is shown.		

	⑨Nogi-machi (town)			⑩Tokai-mura (village)			⑪Hitachiota-shi (city)			⑫Kita-ibaraki-shi (city)		
Date	^{131}I	^{134}Cs	^{137}Cs	^{131}I	^{134}Cs	^{137}Cs	^{131}I	^{134}Cs	^{137}Cs	^{131}I	^{134}Cs	^{137}Cs
	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg
2011/3/17												
2011/3/18												
2011/3/19												
2011/3/20												
2011/3/21												
2011/3/22							245		7			
2011/3/23	142	ND	ND	189		1	150		ND	116		7
2011/3/24	78	ND	ND	124		2	92		12	78		2
2011/3/25	69	ND	ND	97		ND	ND		ND	46		ND
2011/3/26	34	ND	ND	89		0	22		3	39		ND
2011/3/27	ND	ND	ND	21		ND	ND		ND	26		1
2011/3/28	ND	ND	ND	19		ND	23		ND	19		ND
2011/3/29	ND	ND	ND	7		ND				15		ND
2011/3/30	ND	ND	ND									
2011/3/31	ND	ND	ND				ND		ND			
2011/4/1	ND	ND	ND	10	ND	ND				6	ND	1
2011/4/2	ND	ND	ND	8	1	ND				6	ND	ND
2011/4/3	ND	ND	ND	5	ND	ND				4	ND	ND
2011/4/4	ND	ND	ND	5	ND	ND				3	ND	ND
2011/4/5	ND	ND	ND	6	ND	ND				3	ND	ND
2011/4/6	ND	ND	ND				ND		ND			
2011/4/7	ND	ND	ND	5	ND	ND				1	ND	ND
2011/4/8	ND	ND	ND									
2011/4/9	ND	ND	ND	3	ND	1	ND		ND	2	ND	ND
2011/4/10	ND	ND	ND									
2011/4/11	ND	ND	ND	4	ND	ND				1	ND	ND
2011/4/12	ND	ND	ND				2		ND			
Remarks				From a number of measurement points, the largest value is shown.			From a number of measurement points, the largest value is shown.			From a number of measurement points, the largest value is shown.		

	⑬Hitachi-shi (city)			⑭Kasama-shi (city)			⑮Koga-shi (city)			⑯Toride-shi (city)		
Date	^{131}I	^{134}Cs	^{137}Cs	^{131}I	^{134}Cs	^{137}Cs	^{131}I	^{134}Cs	^{137}Cs	^{131}I	^{134}Cs	^{137}Cs
	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg
2011/3/17												
2011/3/18												
2011/3/19												
2011/3/20												
2011/3/21												
2011/3/22												
2011/3/23	298		4	170		ND	142	ND	ND			
2011/3/24	230		3	132		ND	78	ND	ND	107		6
2011/3/25	85		2	33		ND	69	ND	ND	84		4
2011/3/26	41		4	20		ND	34	ND	ND	71		5
2011/3/27	19		2				ND	ND	ND	36		ND
2011/3/28	48		3				ND	ND	ND	20		3
2011/3/29	19		3				ND	ND	ND	14		2
2011/3/30							ND	ND	ND			
2011/3/31							ND	ND	ND			
2011/4/1	10	ND	ND				ND	ND	ND	7	1	1
2011/4/2	9	ND	1				ND	ND	ND	7	1	1
2011/4/3	6	1	1				ND	ND	ND	8	1	ND
2011/4/4	4	ND	ND				ND	ND	ND	7	ND	ND
2011/4/5				4	ND	ND	ND	ND	ND	6	ND	ND
2011/4/6	4	ND	ND				ND	ND	ND	3	ND	ND
2011/4/7				3	1	ND	ND	ND	ND	2	1	1
2011/4/8	4	1	ND				ND	ND	ND	2	ND	ND
2011/4/9				3	ND	ND	ND	ND	ND	2	ND	1
2011/4/10	7	ND	ND				ND	ND	ND	2	ND	ND
2011/4/11				5	ND	ND	ND	ND	ND	2	ND	1
2011/4/12	6	ND	ND				ND	ND	ND			
Remarks	From a number of measurement points, the largest value is shown.			From a number of measurement points, the largest value is shown.						From a number of measurement points, the largest value is shown.		

	⑰Chiba (Chiba Nogiku-no-sato Water Treatment Plant and Kuriyama Water Treatment Plant)			⑱Chiba (Kashiwai Water Treatment Plant)			⑲Kitachiba-Koiki Bulk Water Supply Utility			⑳Inba-gun Bulk Water Supply Utility		
Date	^{131}I	^{134}Cs	^{137}Cs	^{131}I	^{134}Cs	^{137}Cs	^{131}I	^{134}Cs	^{137}Cs	^{131}I	^{134}Cs	^{137}Cs
	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg	Bq/kg
2011/3/17												
2011/3/18												
2011/3/19												
2011/3/20												
2011/3/21	33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2011/3/22							**336**	8	7			
2011/3/23	220						110	ND	ND			
2011/3/24	90			97						97		
2011/3/25	55	ND	ND	130	ND	ND	33	ND	ND	130	ND	ND
2011/3/26	45	ND	ND	63	ND	ND	14	ND	ND	63	ND	ND
2011/3/27	22	2	2	1	1	1				1	1	1
2011/3/28	12	ND	ND	29	ND	ND	ND	ND	ND	29	ND	ND
2011/3/29	11	ND	ND	37	ND	ND	ND	ND	ND	37	ND	ND
2011/3/30	8	ND	ND	21	ND	ND	ND	ND	ND	21	ND	ND
2011/3/31	6	ND	ND	24	ND	ND	ND	ND	ND	24	ND	ND
2011/4/1	6	ND	ND	20	ND	ND	ND	ND	ND	20	ND	ND
2011/4/2	10	ND	ND	28	ND	ND	ND	ND	ND	28	ND	ND
2011/4/3	ND	ND	ND	40	ND	ND	ND	ND	ND	40	ND	ND
2011/4/4	6	ND	ND	27	ND	ND	ND	ND	ND	27	ND	ND
2011/4/5	ND	ND	ND	21	ND	ND	ND	ND	ND	21	ND	ND
2011/4/6	ND	ND	ND	13	ND	ND	6	ND	ND	13	ND	ND
2011/4/7	ND	ND	ND	9	ND	ND	ND	ND	ND	9	ND	ND
2011/4/8	ND	ND	ND	10	ND	ND	ND	ND	ND	10	ND	ND
2011/4/9	ND	ND	ND	9	ND	ND	ND	ND	ND	9	ND	ND
2011/4/10	ND	ND	ND	10	ND	ND	ND	ND	ND	10	ND	ND
2011/4/11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2011/4/12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Remarks	Between the Chiba Nogikunosato Water Treatment Plant or the Kuriyama Water Treatment Plant, the higher value is shown.			The value of the Kashiwai Water Treatment Plant (East-side facility) is shown.						The value of the Kashiwai Water Treatment Plant (East-side facility) is shown.		

	㉑Tokyo (Kanamachi Treatment Plant)		
Date	^{131}I	^{134}Cs	^{137}Cs
	Bq/kg	Bq/kg	Bq/kg
2011/3/17			
2011/3/18			
2011/3/19			
2011/3/20			
2011/3/21			
2011/3/22	210	ND	ND
2011/3/23	190	ND	ND
2011/3/24	79	ND	ND
2011/3/25	51	ND	ND
2011/3/26	34	ND	ND
2011/3/27	ND	ND	ND
2011/3/28	ND	ND	ND
2011/3/29	ND	ND	ND
2011/3/30	ND	ND	ND
2011/3/31	ND	ND	ND
2011/4/1	ND	ND	ND
2011/4/2	ND	ND	ND
2011/4/3	ND	ND	ND
2011/4/4	ND	ND	ND
2011/4/5	ND	ND	ND
2011/4/6	ND	ND	ND
2011/4/7	ND	ND	ND
2011/4/8	ND	ND	ND
2011/4/9	ND	ND	ND
2011/4/10	ND	ND	ND
2011/4/11	ND	ND	ND
2011/4/12	ND	ND	ND
Remarks	The value of the Kanamachi Water Treatment Plant is shown.		

※As for values of radioactive iodine, the cells with values exceeding 100 Bq/kg are colored and those exceeding 300 Bq/kg are in bold.
※The blank space means that no mesurement was carried out. ND：Less than the lower limit of detection. (The lower detection limit varies for each measurement.)
※The values are rounded off to the closest whole number.

Q.12. Have local foodstuffs (fish and meat) been sampled for radioactive materials content?

A.12. The Committee has collected and compiled data for contamination of foodstuffs reported to contain cesium-134, cesium-137, and iodine-131. These data are provided in Table 1, Appendix A, "Japanese Environmental Data near Fukushima." Because the food table has 12,000 lines of data, a summary is provided below. The complete documentation and recent updates for water and food supply information, as well as a number of other useful links, can be found at http://www.mhlw.go.jp/english/topics/2011eq/.

Sum up of radionuclide test results carried out since 19 March 2011
(Up-to-date Report as of 19:00, 21 September 2011)

Food origin (Prefecture)	Food group	Number of food samples tested	Number of foods positive at levels exceeding provisional regulation limits (action levels)	Food concerned (numbers)
Fukushima	vegetable	4194	250	bamboo shoot (55), spinach (39), shiitake (outdoor)(38), broccoli (21), ume(11), rapeseed (6), komatuna (6), sea oak (6), apricot milkcap (7), kukitachina (5), cabbage (5), shinobuhuyuna (5), kosaitai (4), yuzu (4), mizuna (3), ostrich fern(3), turnip (3), shiitake (hothouse cultivation) (3), hatsutake (8), hana wasabi (2), bitaminna (2), santona (2), Japanese parsley(2), chijirena (1), wakame seaweed (1), hijiki (1), loquat (1), fig (1), log-grown pholiota nameko (outdoor) (1), chestnut (2), jersey cow mushroom(1), matsutake mushroom(1)
	fishery products	1108	103	ayu(21), greenling (9), common skete (12), cherry salmon (8), juvenile sand lance (6), northern sea urchin (5), brown hakeling (5), white bite(4), hen-clam(4), rock fish(4), japanese dace (3), japanese smelt(3), stone flounder (3), lefteye flounder (3), goldeye rockfish (3), righteye flounder (2), blue mussel (1), sea urchin (1), char (1), japanese mitten crab (1), slime flounder (1), willow gudgeon (1), japanese seabass (1), jacopever (1)
	milk·dairyproducts	412	18	raw milk (18)
	meat·egg	1250	56	beef (56)
	grain	342	1	wheat (1)
	others	29	2	raw tea leaf (1), rapeseed (1)
	subtotal	**7335**	**430**	
Ibaraki	vegetable	633	39	spinach (29), parsley (7), mizuna (1), red leaf lettuce (1), apricot milkcap (1)
	fishery products	377	6	juvenile sand lance (5), brown hakeling (1)
	milk·dairyproducts	83	5	raw milk (5)
	meat·egg	1604	4	boar meat (4)
	grain	452	-	
	others	68	13	raw tea leaf (13)
	subtotal	**3217**	**67**	
Tochigi	vegetable	320	11	spinach (9), garland chrysanthemum (2)
	fishery products	26	-	
	milk·dairyproducts	45	-	
	meat·egg	101	10	beef (10)
	grain	273	-	
	others	21	4	raw tea leaf (2), unrefined tea leaf (2)
	subtotal	**786**	**25**	
Gunma	vegetable	569	3	spinach (2), kakina (1)
	fishery products	20	4	japanese smelt (2), japanese dace (1), char (1)
	milk·dairyproducts	89	-	
	meat·egg	733	-	
	grain	53	-	
	others	10	3	raw tea leaf (1), unrefined tea leaf (2)
	subtotal	**1474**	**10**	

Saitama	vegetable	287	–	
	fishery products	2	–	
	milk･dairyproducts	50	–	
	meat･egg	78	–	
	grain	90	–	
	others	85	6	refined tea leaf (6)
	subtotal	**592**	**6**	
Chiba	vegetable	517	11	garland chrysanthemum (4) qing-geng-cai (1), celery (1), sanchu asian lettuce (1), parsley (2), spinach (2)
	fishery products	243	–	
	milk･dairyproducts	49	–	
	meat･egg	37	–	
	grain	313	–	
	others	37	15	raw tea leaf (6), unrefined tea leaf (7), refined tea leaf (2)
	subtotal	**1196**	**26**	
Tokyo	vegetable	153	1	komatuna (1)
	fishery products	12	–	
	milk･dairyproducts	6	–	
	grain	1	–	
	others	26	3	refined tea leaf (2), raw tea leaf (1)
	subtotal	**198**	**4**	
Kanagawa	vegetable	158	–	
	fishery products	80	–	
	milk･dairyproducts	63	–	
	meat･egg	36	–	
	grain	4	–	
	others	46	16	unrefined tea leaf (10), raw tea leaf (6)
	subtotal	**387**	**16**	
Niigata	vegetable	728	–	
	fishery products	28	–	
	milk･dairyproducts	50	–	
	meat･egg	102	–	
	grain	2	–	
	others	12	–	
	subtotal	**922**	**0**	
Nagano	vegetable	221	–	
	fishery products	5	–	
	milk･dairyproducts	13	–	
	meat･egg	27	–	
	grain	53	–	
	others	4	–	
	subtotal	**323**	**0**	
Aomori	vegetable	18	–	
	fishery products	12	–	
	milk･dairyproducts	11	–	
	meat･egg	10	–	
	grain	26	–	
	subtotal	**77**	**0**	
Iwate	vegetable	83	–	
	fishery products	36	–	
	milk･dairyproducts	37	–	
	meat･egg	182	17	beef (17)
	grain	62	–	
	subtotal	**400**	**17**	
Miyagi	vegetable	194	–	
	fishery products	106	–	
	milk･dairyproducts	72	–	
	meat･egg	1586	48	beef (48)
	grain	336	–	
	others	6	–	
	subtotal	**2300**	**48**	
Akita	vegetable	10	–	
	fishery products	4	–	
	milk･dairyproducts	2	–	
	meat･egg	29	2	beef (2)
	grain	5	–	
	subtotal	**50**	**2**	

Food origin (Prefecture)	Food group	Number of food samples tested	Number of foods positive at levels exceeding provisional regulation limits (action levels)	Food concerned (numbers)
Yamagata	vegetable	173	–	
	fishery products	5	–	
	milk·dairyproducts	11	–	
	meat·egg	2578	2	beef (2)
	grain	232	–	
	others	5	–	
	subtotal	**3004**	**2**	
Shizuoka	vegetable	13	–	
	fishery products	22	–	
	milk·dairyproducts	5	–	
	meat·egg	180	–	
	grain	6	–	
	others	161	7	refined tea leaf (7)
	subtotal	**387**	**7**	
Yamanashi	vegetable	45	–	
	milk·dairyproducts	6	–	
	meat·egg	38	–	
	grain	6		
	others	9	–	
	subtotal	**104**	**0**	
Hokkaido	vegetable	10	–	
	fishery products	59	–	
	milk·dairyproducts	4	–	
	meat·egg	48	–	
	grain	5	–	
	others	1	–	
	subtotal	**127**	**0**	
Toyama	meat·egg	32	–	
	grain	80	–	
	subtotal	**112**	**0**	
Ishikawa	meat·egg	49	–	
	grain	38	–	
	subtotal	**87**	**0**	
Fukui	meat·egg	18	–	
	grain	87	–	
	subtotal	**105**	**0**	
Gifu	vegetable	1	–	
	meat·egg	111	–	
	grain	3	–	
	subtotal	**115**	**0**	

Aichi	vegetable	1	–	
	fishery products	2	–	
	milk·dairyproducts	4	–	
	meat·egg	1	–	
	others	9	–	
	subtotal	**17**	**0**	
Shiga	meat·egg	8	–	
	subtotal	**8**	**0**	
Mie	fishery products	10	–	
	meat·egg	32	–	
	others	1		
	subtotal	**43**	**0**	
Kyoto	vegetable	33	–	
	fishery products	13	–	
	milk·dairyproducts	6	–	
	meat·egg	8	–	
	grain	5	–	
	others	2	–	
	subtotal	**67**	**0**	
Hyogo	vegetable	25	–	
	fishery products	2	–	
	milk·dairyproducts	1	–	
	meat·egg	8	–	
	grain	18	–	
	subtotal	**54**	**0**	
Wakayama	fishery products	2	–	
	meat·egg	1		
	subtotal	**3**	**0**	
Tottori	meat·egg	1	–	
	subtotal	**1**	**0**	
Shimane	meat·egg	72	–	
	subtotal	**72**	**0**	
Okayama	meat·egg	6	–	
	subtotal	**6**	**0**	
Hiroshima	meat·egg	3	–	
	milk·dairyproducts	1	–	
	grain	1	–	
	subtotal	**5**	**0**	
Tokushima	meat·egg	1	–	
	subtotal	**1**	**0**	
Ehime	vegetable	2	–	
	meat·egg	1	–	
	subtotal	**3**	**0**	
Kochi	vegetable	5	–	
	fishery products	6	–	
	meat·egg	1	–	
	grain	1	–	
	subtotal	**13**	**0**	
Yamaguchi	meat·egg	1	–	
	grain	1	–	
	subtotal	**2**	**0**	
Nagasaki	vegetable	1	–	
	subtotal	**1**	**0**	
Kumamoto	meat·egg	2	–	
	subtotal	**2**	**0**	
Oita	meat·egg	3	–	
	subtotal	**3**	**0**	
Miyazaki	others	2	–	
	subtotal	**2**	**0**	
Others	milk·dairyproducts	30	–	
	meat·egg	5	–	
	others	7	–	
	subtotal	**42**	**0**	
total		**23643**	**660**	

Restriction of distribution and/or consumption within the whole and/or part of prefecture are imposed for the underlined foods.

Q.13. Have any blood samples or other tissue samples been taken for biologic dosimetry from workers with the highest exposures?

A.13. To the Committee's knowledge, no blood sampling has been done up to the present time.